

REMARKS

I. Summary of Office Action

Claims 1-89 are pending in the application.

The Examiner rejected claims 63-89 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claims the subject matter which applicants regard as the invention.

Claims 1-4, 10, 21-23, 29, 35-37, 43, 49-51, 57, 63-64, 70, 76-77, 83, and 89 were rejected by the Examiner under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,088,032 to Bosack (hereinafter, "Bosack").

The Examiner rejected claims 5-9, 11-20, 24-28, 30-34, 38-42, 44-48, 52-56, 58-62, 65-69, 71-75, 78-82, and 84-88 under 35 U.S.C. § 103(a) as being unpatentable over Bosack.

II. Summary of Applicants' Reply

Amendments to the specification and the drawings have been proposed by applicants in order to correct certain typographical errors. No new matter would be added by these amendments to the specification and drawings.

Applicants have amended claims 1, 21, 37, 43, 51, 57, 63, 64, 76, 77, and 89 in order to correct typographical errors in some of these claims and to more particularly define the present invention. No new matter has been added by these amendments to the claims.

The Examiner's rejections under 35 U.S.C. §§ 112, 102(b), and 103(a) are respectfully traversed by applicants.

Reconsideration of this application is respectfully requested.

III. The Amendments to the Specification

Applicants propose amending the specification to correct certain typographical errors as set forth in the following table. These proposed amendments are fully supported and justified by the original specification and drawings. Applicants respectfully request that the Examiner enter these proposed amendments to the specification.

Page(s), paragraphs	Change From	Change To	Justification
Page 1, paragraph 0002	09/____,____; 09/____,____; 09/____,____; and 09/____,____	09/775,347; 09/775,348; 09/775,350; and 09/775,349	Clerical/ Typographical
Pages 11-12, paragraph 0021	different local root Node that Nodes A and B	different local root Node than Nodes A and B	Typographical
Page 16, paragraph 0030	FIG. 1 shows an example of a typical prior end network	FIG. 1 shows an example of a typical prior art network	Typographical
Page 16, paragraph 0030	FIG. 2 shows an example of a typical prior end network	FIG. 2 shows an example of a typical prior art network	Typographical
Page 17, paragraph 0034	a conventional computer station	a conventional computer station 30	Typographical
Pages 17-18, paragraph 0035	(EAG))	(EAG)	Typographical
Pages 17-18, paragraph 0035	i.e. an imaginary node	i.e., an imaginary node	Typographical
Pages 17-18, paragraph 0035	(i.e. it's coordinate label)	(i.e., it's coordinate label)	Typographical
Pages 17-18, paragraph 0035	being routed according to from a Node	being routed from a Node	Typographical
Pages 20-21, paragraph 0040	Node, X	Node, X,	Typographical
Page 22, paragraph 0045	if Figure 3	in Figure 3	Typographical
Page 39, paragraph 0080	having end Nodes N1 and N2	having end Nodes E1 and E2	Typographical
Pages 39-40, paragraph 0081	A though H	A through H	Typographical
Pages 39-40, paragraph 0081	Nods	Nodes	Typographical
Pages 39-40, paragraph 0081	network) It may	network), it may	Typographical
Pages 39-40, paragraph 0081	links S1, and S2	links S1 and S2	Typographical
Pages 39-40, paragraph 0081	network) it can	network), it can	Typographical

IV. The Amendments to the Drawings

Applicants propose amending FIGS. 3 and 5 to correct typographical errors in each. More particularly, in FIG. 3, applicants propose changing “21, 231, 3131, 412131” located to the left of node “G” to “12, 231, 3131, 412131.” This change is supported by FIG. 3 as originally filed, as well as by the table provided in page 21, paragraph 42 of the specification. Applicants

also propose amending FIG. 5 by changing “2 3” to “2.3” and by adding a box labeled “V” as shown. These proposed changes are to correct typographical errors, and are supported by FIG. 5 as originally filed, as well as by page 25, paragraph 51 of the specification.

In accordance with 37 C.F.R. § 1.121, replacement sheets of the drawings containing FIGS. 3 and 5 are enclosed herewith.

Applicants respectfully request that the Examiner enter these amendments to the drawings.

V. The Amendments to the Claims

Applicants have amended claims 1, 21, 37, 43, 51, 57, 63, 64, 76, 77, and 89 as indicated in the Listing of Claims that begins on page 7 of this paper. These amendments have been made in order to correct typographical errors in some of these claims and to more particularly define the present invention.

The amendments to claims are fully supported and justified by the specification and drawings as originally filed. No new matter has been added.

VI. The Rejection of Claims 63-89 Under 35 U.S.C. § 112, Second Paragraph

The Examiner rejected claims 63-89 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.

Independent claims 63 and 76 have been amended in response to the Examiner's rejection of claims 63-89 under this section. In particular, claim 63 has been amended to provide proper antecedent basis for “said destination node,” and claim 76 has been amended to change “transmits said data onto said foreign network” to “transmits data onto a foreign network.” No new matter has been added by the amendments to claims 63 and 76.

In light of the amendments to claims 63 and 76, applicants respectfully request that the Examiner withdraw the rejection of claims 63-89 under 35 U.S.C. § 112, second paragraph.

VII. The Rejection of Independent Claims 1, 21, 36, 49, 63, and 76 Under 35 U.S.C. § 102(b)

Each of the pending independent claims 1, 21, 36, 49, 63, and 76 was rejected by the Examiner under 35 U.S.C. § 102(b) as being anticipated by Bosack. The Examiner's rejection of independent claims 1, 21, 36, 49, 63, and 76 is respectfully traversed.

Applicants respectfully submit that, contrary to the Examiner's contention, each of independent claims 1, 21, 36, 49, 63, and 76 are allowable as set forth below.

A. Independent Claim 1 Is Allowable Over Bosack

Generally speaking, the invention defined by independent claim 1 relates to a network that includes a plurality of Nodes interconnected by Links. As amended, independent claim 1 requires that a network according to the invention conform to the following five requirements:

each Node is assigned a set of one or more coordinate labels, each representing a path comprising one or more Links or other Nodes;

each coordinate label is unique to the Node to which it is assigned;

a path between a first Node and a second, non-adjacent Node being determined from one of said coordinate labels assigned to said first Node and one of said coordinate labels assigned to said second Node;

said first Node is a gateway Node and said second Node is a destination Node;
and

data from a foreign network is received at said gateway Node and routed on said network to said destination Node.

Bosack, on the other hand, relates to a method and apparatus for routing data transmissions among computer networks with the use of gateway circuits. As described in Bosack, e.g., at column 1, line 60 to column 2, line 38 and column 4, lines 10-42, each gateway circuit learns all the destinations that can be reached through it. This information is compiled for each gateway circuit in path definitions to each destination, as shown in Bosack's Table 1.

When there is a destination whose network does not have a directly connected interface with the gateway circuit, the path definitions also include the identity of the next gateway circuit (called the "next hop") toward that destination. The path definitions, however, do not include information for the entire path between the gateway circuit and each destination. For example, referring to FIG. 2 of Bosack, when gateway circuit 108 receives a data transmission from a computer in network 98 that is destined for a computer in non-adjacent network 94, gateway

circuit 108 will not know (or need to know) the entire route to reach the destination. However, gateway circuit 108 would send the data to one of gateway circuits 104, 106, and 76 (i.e., the “next hop”) in order for the data to ultimately reach the computer in network 94.

Contrary to the Examiner’s contention on pages 2-3 of the Office Action, for at least the following reasons, Bosack fails to show or suggest all the elements of applicants’ claim 1:

(i) **Bosack Does Not Show or Suggest Assigning Unique Coordinate Labels To Each Node As Claimed By Applicants**

Applicants’ claim 1 requires that all Nodes for a path between a first (gateway) Node and a second (destination) Node be assigned one or more coordinate labels, and that each of these labels be unique to the Node to which it is assigned. In rejecting the claims, the Examiner asserted that FIG. 2 of Bosack shows “gateways and destinations” which correspond to the claimed first gateway Node and the second destination Node (Office Action, page 3, lines 13-14). Because Bosack describes computers attached to networks 62-98 as being the “destinations” of data transmissions, applicants presume that either Bosack’s computers or networks are the “destinations” to which the Examiner is referring. Assuming *arguendo* that Bosack’s computers or networks are Nodes, these computers or networks would have to be assigned unique coordinate labels in order to anticipate or make obvious applicants’ claim 1. However, contrary to this requirement, applicants respectfully submit that, for at least the following reasons, Bosack does not show each Node being assigned a unique coordinate label as required by claim 1.

(a) **Computers and Networks In Bosack Are Not Assigned Coordinate Labels**

As stated above, gateway circuits are assigned path definitions representing the paths toward destinations via adjacent gateway circuits (“next hops”) (see, e.g., Table 1 in column 5 of Bosack, and the preceding text at column 4, lines 64-65). The Examiner has asserted that these path definitions are coordinate labels. However, even assuming *arguendo* that these path definitions are coordinate labels, nowhere does Bosack show or suggest assigning these path definitions to Bosack’s computers or networks. In fact, there is no reason in Bosack to assign path definitions to the computers or networks, because each gateway circuit leading up to a

destination network maintains the necessary path definitions to select the “next hop” (another gateway circuit) for a data transmission path, until the final gateway circuit is reached and the data is provided by this final gateway circuit to the destination network.

Accordingly, because Bosack does not show or suggest assigning path definitions to computers or networks, even assuming such path definitions were coordinate labels, it also fails to show or suggest assigning coordinate labels to each Node as required by claim 1.

(b) Even If Computers and Networks Were Assigned Coordinate Labels In Bosack, They Would Not Each Be Unique

As explained immediately above, because Bosack’s path definitions are assigned to gateway circuits and not to computers or networks, Bosack does not show or suggest applicant’s claim 1. Even assuming arguendo that path definitions were assigned to both gateway circuits and computers or networks, Bosack would still fail to show or suggest those path definitions being unique to only one of the gateway circuits and computers or networks because they would be assigned to both.

For at least the foregoing reasons, applicants respectfully request that the rejection of claim 1, and claims 2-20 which depend from claim 1, be withdrawn by the Examiner.

(ii) Bosack Does Not Show or Suggest Determining A Path Between Non-Adjacent Nodes As Claimed By Applicants

For at least the following reasons, Bosack also fails to show or suggest determining a path between non-adjacent Nodes in the manner required by applicants’ claim 1:

(a) Destination Networks In Bosack Are Not Assigned Unique Coordinate Labels

Applicants’ claim 1 requires that a path be determined “between a first Node and a second, non-adjacent Node ... from one of said coordinate labels assigned to said first Node and one of said coordinate labels assigned to said second Node,” where “each coordinate label is unique” and “said second Node is a destination Node.”

As explained above in parts (A)(i)(a) and (b) of this section, either the destination computers or networks are not assigned coordinate labels representing paths, or the coordinate labels are not unique. Thus, because the second (destination) Nodes in Bosack are not assigned

unique coordinate labels, Bosack must fail to disclose a path between non-adjacent Nodes being determined from “one of said coordinate labels assigned to said first Node and one of said coordinate labels assigned to said second Node,” where both of these coordinate label are unique, as required by applicants’ claim 1.

(b) Even If Destination Computers or Networks Were Assigned Unique Coordinate Labels In Bosack, They Would Not Be Used In Determining A Path To The Destination Computers or Networks

Even assuming arguendo that a destination computer or network in Bosack was assigned unique coordinate labels, Bosack would still fail to show or suggest determining a path to the destination computer or network from one of the coordinate labels assigned to that destination computer or network because the path to that destination is only determined from the gateway circuits leading up to that destination computer or network.

More particularly, in Bosack, when a gateway circuit receives a data transmission that is destined for a non-adjacent Node, the gateway circuit decides on the “next hop” (i.e., the next gateway circuit) for the data transmission. Once the data transmission reaches the final gateway circuit, which has a directly connected interface to the destination computer or network, the data is transmitted to that destination computer or network based on the information assigned to that gateway circuit, not based on information assigned to the destination computer or network.

Accordingly, Bosack fails to show or suggest a path between non-adjacent Nodes (with a computer or network being the destination Node) being determined from “one of said coordinate labels assigned to said first Node and one of said coordinate labels assigned to said second Node” as required by claim 1.

(c) Even Assuming A Gateway Circuit To Be The Destination Node, Bosack Does Not Show or Suggest Using A Coordinate Label Assigned To The Gateway Circuit In Determining A Path To That Gateway Circuit

In Bosack, gateway circuits are used to route data transmissions to destination computers or networks, but are not themselves destination Nodes. However, even assuming arguendo that a gateway circuit in Bosack was a destination Node in a particular data transmission, Bosack

would still fail to disclose determining a path to a destination Node from one of the coordinate labels assigned to that destination Node.

As described throughout Bosack, all of the path definitions that are provided to gateway circuits are used only for outbound connections (to the “next hop” in a data transmission). Nowhere does Bosack show or suggest that gateway circuits be assigned coordinate labels representing paths to, rather than from, the gateway circuits. Thus, assuming arguendo that path definitions were coordinate labels, any such path definitions assigned to a destination gateway circuit would never be used to construct a path to that gateway circuit.

Accordingly, Bosack fails to show or suggest a path between non-adjacent Nodes (even if a gateway circuit were a destination Node) being determined from “one of said coordinate labels assigned to said first Node and one of said coordinate labels assigned to said second Node” as required by claim 1.

For at least the foregoing reasons, applicants respectfully request that the rejection of claim 1, and claims 2-20 which depend from claim 1, be withdrawn by the Examiner.

B. Independent Claim 21 Is Allowable Over Bosack

Generally speaking, the invention defined by independent claim 21 relates to a network that includes a plurality of Nodes interconnected by Links. As amended, independent claim 21 requires that a network according to the invention conform to the following five requirements:

- each Node is assigned a set of one or more coordinate labels, each representing a path comprising one or more Links or other Nodes;
- each coordinate label is unique to the Node to which it is assigned;
- a path between a first Node and a second, non-adjacent Node being determined from one of said coordinate labels assigned to said first Node and one of said coordinate labels assigned to said second Node;
- said second Node is a gateway Node; and
- data is transmitted from said gateway Node into a foreign network.

For at least the reasons set forth above with in connection with claim 1 in part (A)(ii)(c) of this section, applicants respectfully submit that Bosack does not show or suggest “a path between a first Node and a second, non-adjacent Node being determined from ... one of said coordinate labels assigned to said second Node,” even where the second Node is a gateway Node (as required by claim 21).

Accordingly, applicants respectfully submit that claim 21 is allowable over Bosack, and request that the rejection of claim 21, and claims 22-35 which depend from allowable claim 21, be withdrawn by the Examiner.

C. Independent Claims 36 and 49 Are Allowable Over Bosack

Generally speaking, applicants' invention as defined by independent claims 36 and 49 relates to a method for determining a path from a source Node to a destination Node in a network. In particular, as defined by claims 36 and 49, the method requires performing both of the following steps (emphasis added):

assigning to [all] second Nodes, including said source Node and said destination Node, one or more coordinate labels, each coordinate label assigned to a second Node representing a path through said network from said second Node to [a] first Node; and

determining a path from said source Node to said destination Node by combining one coordinate label of said source Node and one coordinate label of said destination Node.

Thus, in accordance with the invention defined by applicants' claims 36 and 49, a path between two second Nodes (i.e., a source Node and a destination Node) in a network is determined using one coordinate label from each Node, where each coordinate label represents a respective path from the Node to which it is assigned to a different Node (i.e., the first Node).

Contrary to the Examiner's suggestion, applicants respectfully submit that Bosack does not show or suggest determining a path between a source Node and a destination Node as required by claims 36 and 49 for at least the following reasons:

(i) Bosack's Path Definitions Are Only Used For Outbound Connections

For at least the same reasons as set forth above in connection with claim 1, Bosack does not show or suggest combining one coordinate label from a source Node and one coordinate label from a second Node to determine a path from the source Node to the destination Node. In particular, as explained above in part (A)(ii)(c) of this section, the path definitions that are disclosed in Bosack are used solely for outbound connections. Thus, even if a coordinate label was assigned to a destination Node (whether a gateway circuit, network, or computer), it would

not be combined with any other coordinate label to determine a path to that destination Node, as required by claims 36 and 49.

Accordingly, Bosack fails to show or suggest a path between Nodes being determined “by combining one coordinate label of said source Node and one coordinate label of said destination Node” as required by claims 36 and 49.

(ii) **Bosack Does Not Show or Suggest Determining A Path Between Source And Destination Nodes Using Coordinate Labels Representing Paths To A Different Node**

Even assuming arguendo that a coordinate label assigned to the destination Node was combined with a coordinate label assigned to the source Node to determine a path between the two Nodes in Bosack, Bosack nevertheless fails to disclose that such coordinate labels assigned to the source and destination Nodes represent paths to a “first Node” that is different from both the source or destination Node (as required by claims 36 and 49).

For at least the foregoing reasons, applicants respectfully request that the rejection of claims 36 and 49, and claims 37-48 and claims 50-62 which depend from one of allowable claims 36 and 49, be withdrawn by the Examiner.

D. Independent Claims 63 and 76 are Allowable Over Bosack

Generally speaking, applicants’ invention as defined by independent claims 63 and 76 relates to a Node for use in a network. As required by claims 63 and 76, as amended, the Node “has one or more coordinate labels assigned thereto, each coordinate label representing a complete path from said Node to a particular other, non adjacent Node of [the] network, each of said coordinate labels being unique to said Node.”

Unlike the claimed invention, nowhere in Bosack is it shown or suggested that a Node is assigned one or more coordinate labels, where each coordinate label represents a complete path from that Node to a non-adjacent Node. This is apparent from the fact that when a gateway circuit in Bosack receives a data transmission that is destined for a non-adjacent node, the gateway circuit is only able to decide on the “next hop” (i.e., the next gateway circuit) for the data transmission because that is all that the path definitions provide. Thus, Bosack does not show or suggest the claimed invention.

Accordingly, applicants respectfully request that the rejection of claims 63 and 76, and claims 64-75 and 77-89 which depend from one of claims 63 and 76, be withdrawn by the Examiner.

VIII. The Rejections of Dependent Claims 2-20, 22-35, 37-48, 50-62, 64-75, and 77-89 Under 35 U.S.C. §§ 102(b) and 103(a)

The Examiner rejected each of dependent claims 2-20, 22-35, 37-48, 50-62, 64-75, and 77-89 under one of 35 U.S.C. §§ 102(b) and 103(c) as being either anticipated by, or unpatentable over, Bosack.

Applicants respectfully submit that claims 2-20, 22-35, 37-48, 50-62, 64-75, and 77-89, each of which depends from one of independent claims 1, 21, 36, 49, 63, and 76, are allowable for at least the same reasons that the independent claims are patentable as set forth above. Therefore, applicants respectfully request that the Examiner withdraw the rejections of claims 2-20, 22-35, 37-48, 50-62, 64-75, and 77-89.

IX. Petition For Extension Of Time

Applicants have submitted herewith a petition for a three-month extension of time for responding to the Office Action mailed on September 7, 2004. The Director is hereby authorized to charge any additional fees which may be required for this response, or credit any overpayment, to Deposit Account No. 08-0219.

X. Conclusion

Applicants respectfully submit that, as described above, the cited references do not show or suggest the combination of features recited in the claims. Applicants do not concede that the cited references show any of the elements recited in the claims. However, applicants have provided specific examples of elements in the claims that are clearly not present in the cited prior art.

Applicants strongly emphasize that one reviewing the prosecution history should not interpret any of the examples applicants have described herein in connection with distinguishing over the prior art as limiting to those specific features in isolation. Rather, applicants assert that it is the combination of elements recited in each of the claims, when each claim is interpreted as

a whole, which is patentable. Applicants has emphasized certain features in the claims as clearly not present in the cited references, as discussed above. However, applicants do not concede that other features in the claims are found in the prior art. Rather, for the sake of simplicity, applicant are providing examples of why the claims described above are distinguishable over the cited prior art.

Applicant wishes to clarify for the record, if necessary, that the claims have been amended to expedite prosecution. Moreover, applicant reserve the right to pursue the original subject matter recited in the present claims in a continuation application.

Any narrowing amendments made to the claims in the present Reply are not to be construed as a surrender of any subject matter between the original claims and the present claims; rather merely applicants' best attempt at providing one or more definitions of what the applicants believe to be suitable patent protection. In addition, the present claims provide the intended scope of protection that applicant are seeking for this application. Therefore, no estoppel should be presumed, and applicants' claims are intended to include a scope of protection under the Doctrine of Equivalents.

Further, applicants hereby retract any arguments and/or statements made during prosecution that are rejected by the Examiner during prosecution and/or that are unnecessary to obtain allowance, and only maintain the arguments that persuade the Examiner with respect to the allowability of the patent claims, as one of ordinary skill would understand from a review of the prosecution history. That is, applicants specifically retract statements that one of ordinary skill would recognize from reading the file history as not necessary, not used and/or rejected by the Examiner in allowing the patent application.

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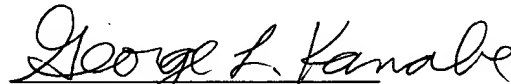
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For at least the reasons set forth above, applicants respectfully submit that this application, as amended, is in condition for allowance. Reconsideration and prompt allowance of the application are respectfully requested.

Respectfully submitted,

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